



Field to Market®

The Alliance for Sustainable Agriculture



Meeting the Challenge

Producing enough food, fiber and fuel for more than 9 billion people by 2050, while conserving natural resources has become increasingly complex





purchasing more protein rich foods



doubling agricultural output





decreased rainfall



extreme weather patterns



70% fresh water used



37% of land use

1/3
edible food
lost or wasted





- Reduce GHG emissions across value chain by 25% by 2020
- Sustainably source key agricultural ingredients by 2020
- Expand acreage in Field to Market to 1 Million acres by 2020



- Sustainably source 100 percent of 10 priority ingredients by 2020
- Expand acreage in Field to Market to 2.5 Million acres by 2015
- Reduce GHG emissions in fertilizer management



- Halve the GHG impact of our products across the lifecycle by 2020
- Source 100% of our agricultural raw materials sustainably by 2020
- Halve the environmental footprint of the making and use of our products as we grow our business by 2020



- Reduce and optimize the resources required to produce that food and driving more transparency into its supply chain
- Reduce fertilizer use on 14 Million acres of U.S. farmland by 2020



Field to Market: The Alliance for Sustainable Agriculture focuses on defining, measuring and advancing the sustainability of food, fiber and fuel production



























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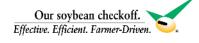








































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Field to Market®

The Alliance for Sustainable Agriculture





















What is Field to Market®?

- A collaborative stakeholder group
 - Producers, agribusinesses, food and retail companies, conservation associations, universities, and NRCS
 - Established as a 501(c)(3) with staff and headquarters in Washington, DC in 2014
- Identifying supply chain strategies to define, measure, and promote continuous improvement for agriculture
 - Addressing the challenge of increasing demand and limited resources
- Developing and implementing outcomes-based, science-based metrics and tools
 - Fieldprint Calculator[®], a free, online tool to help growers analyze their operations and help the supply chain explain how food is produced
 - National Report on environmental and socioeconomic trends over time for U.S. commodity crops



How We Define Sustainable Agriculture

Meeting the needs of the present while improving the ability of future generations to meet their own needs by:

- Increasing productivity to meet future food and fiber demands
- Improving the environment
- Improving human health
- Improving the social and economic well-being of agricultural communities



Guiding Principles

- Engage the full supply chain including producers
- Focus on commodities crops with unique supply chains and traceability issues

- Science based
- Outcomes based
- Technology neutral
- Commitment to individual grower data privacy
- Measure broad-scale trends and field-scale outcomes

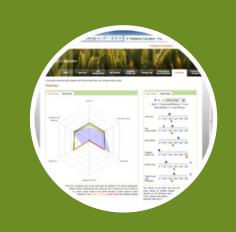


Deliverables: What We Are Doing



National indicators report:

Documentation of overall trends



Grower Fieldprints: Individual opportunities for continuous improvement

Public data and models Collaboratively developed Outcomes based



Supply chain projects:

Direct engagement
in continuous
improvement



National Indicators Report: Objectives

- Analyze trends over time for environmental and socioeconomic sustainability indicators
- Establish a baseline against which to measure future improvements
- Create enabling conditions for an informed, multistakeholder discussion of sustainability
- Advance an outcomes-based, science-based approach
- Provide broad-scale context for more local efforts



National Indicators Report

Criteria

- Outcomes based
- Practice/technology neutral
- Transparent and credible science
- On-farm production outcomes within a grower's control

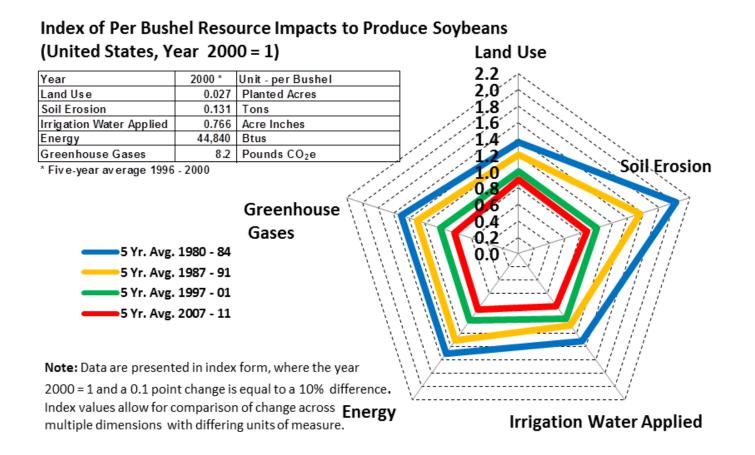
Data & Methods

- Crops: corn, cotton, potatoes, rice, soybeans, and wheat (2012)
- Indicators: land use, soil use, irrigation water, energy use, green house gas emissions in socio-economic added in 2012
- Analyzed publicly available data, 1980-2011;
 U.S. national-scale indicators
- Peer reviewed

Summary Results: Environmental Indicators

- Resource use/impact <u>per unit of production</u> ("efficiency")
 - Improvement for all six crops on all five environmental indicators
 - Driven in part by improvements in yield
 - Helps track resource uses vs. production/demand concerns
- Total resource use/impact
 - Variability across crops and indicators (increases, decreases)
 - Driven in part by overall increases or decreases in production

Sample Results: Resources per bushel – Soybeans





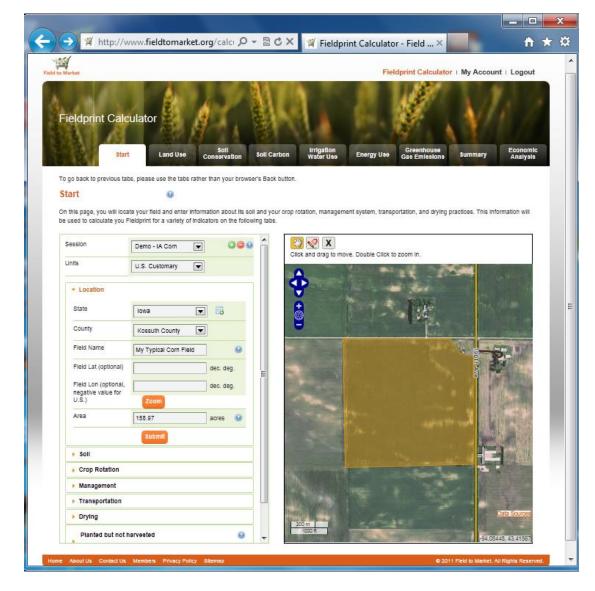
What is the Fieldprint Calculator?

- An online education tool for row crop farmers that indexes their agronomics and practices to a Fieldprint
- Helps growers evaluate their farming decisions and compare their sustainability performance
 - In the areas of:
 - Land use
 - Soil conservation
 - Soil carbon
 - Water use
 - Energy use
 - Greenhouse gas emissions
 - Water Quality
 - Biodiversity (in development)

- Comparing against:
 - Their own fields
 - Their own performance over time
 - County, state and national averages

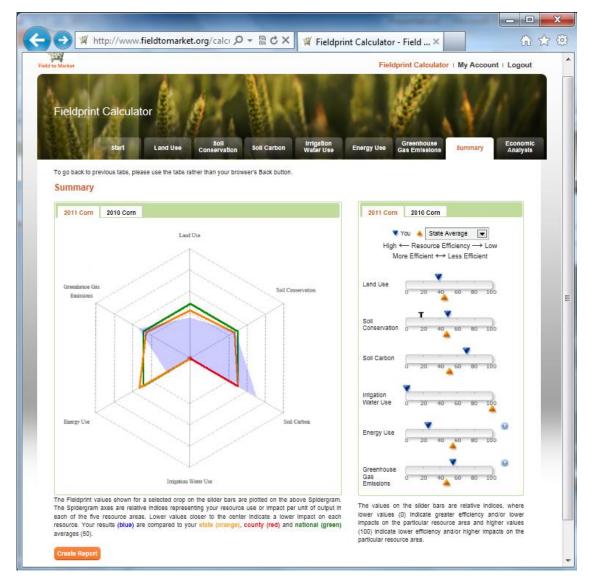


Measuring at the Field Level





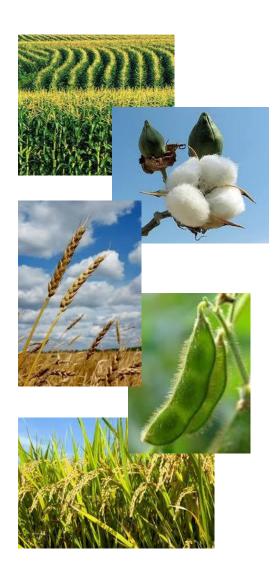
Fieldprint Summary





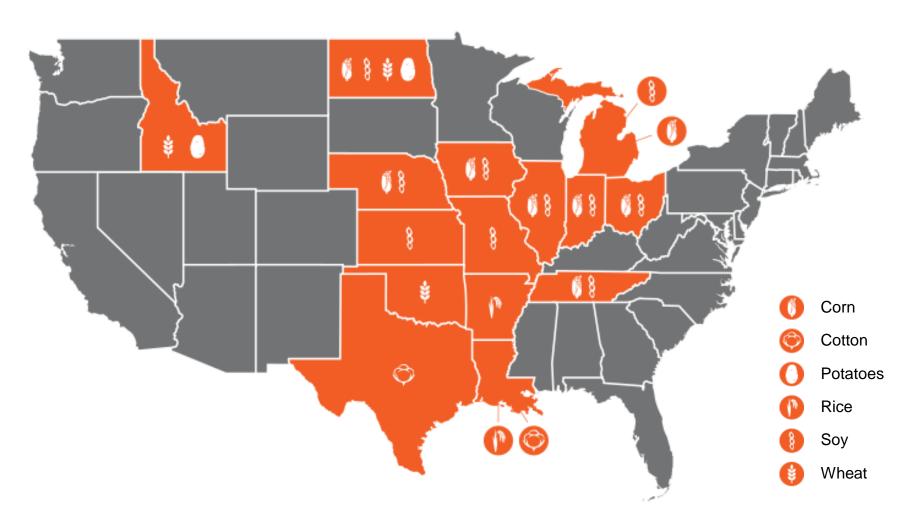


Fieldprint Projects



- Demonstrate use of calculator on the ground to test utility at the grower level and through the supply chain
- Engage farmers across geographies, crops, and supply chains
- Sponsors include grower organizations, supply chain companies, conservation organizations, and NRCS

Field to Market's Fieldprint Projects





FTM program expansion in 2014-2015

- New headquarters and staff in Washington, DC will oversee licensing of FTM assets
- Technology development key to exponential growth in Fieldprint Calculator participation
 - Interface with existing farm management and recordkeeping programs to reduce duplicate data entry
- Participation in ISEAL is shaping program verification and enabling sourcing claims



The Future: FTM's three basic functions

- 1. Benchmarking and data collection
- 2. Identifying opportunities for continuous improvement by leveraging existing tools/programs/initiatives
- 3. Aggregating information and enabling supply chain sustainability claims



Two phase program design

- Phase One: 2014 2015
 - Development of APIs & license agreements for Fieldprint Calculator integration with other tools/platforms
 - Development of protocols for linking to continuous improvement programs / conservation resources / technical assistance
 - FTM supporting "Participation" claims
- Phase Two: 2016 Beyond
 - Updated metrics & algorithms (FPC 3.0)
 - Integration with a greater number of tools/platforms
 - Established partnerships for continuous improvement
 - FTM supporting "Measurement" and "Impact" claims



2014 Workgroups

- Goals: Provide further clarity and recommendations for collective near-term, mid-term and long-term goals
- Metrics: Identify which metrics need to be updated, and possible new metrics and process and timeline
- Technology: Fieldprint Calculator maintenance, including integration of new benchmarks, crops, and metrics. Review integration/coordination with other platforms.
- Continuous improvement: Establish protocols for continuous improvement options, including partnerships and reporting
- Verification and claims: Continue to use ISEAL guidance to develop a protocol for the FTM program





Value of the Field to Market Approach

- Food and retail companies can access aggregated data in a pre-competitive fashion to make sustainable sourcing claims.
- <u>Agribusinesses</u> have a business opportunity to provide relevant decision support tools, technologies, programs and initiatives to growers.



Value of the Field to Market Approach

- Grain buyers can report the sustainability of their sourcing areas through a single platform rather than responding to multiple, competing surveys that may not have the same degree of supply chain support or recognition.
- Conservation organizations have full confidence in a sustainability framework that can become the focal point of their agricultural work and goals for production and supply chain sustainability.



Value of the Field to Market approach

- <u>Farmers</u> can evaluate their current footprint and connect with tools, technologies, programs and initiatives that will facilitate continuous improvement within their operations.
- Growers can benefit from an outcomes-based, technology neutral sustainability platform that will help ensure market access while reducing or eliminating a proliferation of supply chain surveys.
- Commodity Organizations have opportunities to partner with the agricultural supply chain in communicating sustainability messages to the general public.



